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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,048	02/03/2006	Artur Lachowicz	S9025.0209	7390
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DICKSTEIN SHAPIRO LLP				
1633 Broadway				
NEW YORK, NY 10019				
EXAMINER				
BOYLE, ROBERT C				
ART UNIT		PAPER NUMBER		
1764				
MAIL DATE		DELIVERY MODE		
10/29/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,048

Applicant(s)

LACHOWICZ ET AL.

Examiner

ROBERT C. BOYLE

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. No new grounds of rejection have been introduced, therefore this action is properly deemed FINAL.

Claim Rejections - 35 USC § 102

3. Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Dammann (US 6,706,414).
4. The rejection is adequately set forth in paragraphs 9-16 in the office action mailed on 7/9/2010 and is incorporated here by reference.
5. While the calculations presented in the previous Office Action in ¶ 10 were not entirely accurate, as explained below in the Response to Arguments section, the underlying grounds of rejection remain the same in that glycidyl methacrylate is present in the reaction solution in an amount that falls within the claimed amount.

Claim Rejections - 35 USC § 112

6. The 112 second paragraph rejection presented in the previous Office Action is withdrawn in view of the amendments made.

Response to Arguments

7. Applicant's arguments filed 10/6/2010 have been fully considered but they are not persuasive.
8. Applicant argues that all the glycidyl methacrylate ("GMA") would be consumed on formation of the catalyst and therefore would not be available to become part of the reaction product.
9. It is noted that Dammann theorizes that GMA reacts with the quaternary salt to form the catalyst (col. 7, ln. 31-34). Further, Dammann provides data that shows when GMA or a quaternary amine (TBAB) are used alone, no conversion occurs (Table 1). Thus, it is presumed that the catalyst results from the reaction of an epoxy molecule with a quaternary amine.
10. However, Applicant's argument is not persuasive. Dammann teaches embodiments where 5 wt% GMA is used with 0.5 wt% TBAB. Thus, there is an excess of GMA present compared to the amount of TBAB. The excess GMA (which does not react with TBAB) is able to undergo the Michael addition reaction, as it can act as a Michael acceptor because it has a ketone adjacent to an alkene group. The following shows the calculations performed by the examiner in support of this position.
11. Dammann teaches examples where 74 g of trimethylol propane triacrylate (b), 14.8 g of ethyl acetoacetate (c), and 5 wt % of glycidyl methacrylate (a) are combined and reacted together (col. 10-col. 11; Table 1). When 5 wt% of GMA is used, 0.5 wt% of TBAB is used (Table 1). GMA has a molecular weight of about 142 g/mol, and TBAB has a molecular weight of about 332.4 g/mol. 74 g of trimethylol propane triacrylate and 14.8 g of ethyl acetoacetate leads to a reactor charge of 88.8 g.

12. To calculate the amount of GMA present, 5 wt% GMA of 88.8 g of reactor charge is 4.44 g, thus there is 4.44 g of GMA. 4.44 g of GMA divided by 142 g/mol results in 0.03127 moles of GMA present.

13. To calculate the amount of TBAB present, 0.05 wt% GMA of 88.8g of reactor charge is 0.444 g, thus, there is 0.444 g of TBAB. 0.444 g of TBAB divided by 332.4 g/mol results in 0.001336 moles of TBAB present.

14. The ratio of GMA/TBAB is $0.03127 / 0.001336$, or about 23/1. Thus, there is 23 times more GMA present than TBAB. Assuming that all the TBAB reacts, then this would leave 0.029934 moles of GMA present in the solution. This gives the ratio of (a) to the activated hydrogen atoms of (c) of 0.029934:0.2237, or 0.134:1, which falls within the claimed range.

15. Likewise the ratio of the unsaturated groups of glycidyl methacrylate and trimethylol propane triacrylate to the active hydrogens of ethyl acetoacetate will remain substantially unchanged, as the bulk of the unsaturated groups is derived from the trimethylol propane triacrylate.

16. Thus, while it is appreciated that a degree of the GMA will react with the TBAB in the formation of the catalyst, this does not remove all of the GMA from solution, and the amount of GMA remaining still falls within the scope of the claims. Because the reaction taught in Dammann uses ingredients that fall within the scope of the claims, in amounts that fall within the scope of the claims, in the same Michael reaction conditions as claimed, the rejection over Dammann is maintained.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Thursday, 9:00AM-5:00PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert C. Boyle/
Examiner, Art Unit 1764

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1764